UniFi® Dream Machine

DATASHEET



Simply Powerful Networking

Easiest Way to Introduce UniFi to Homes and Businesses

One Device Combining Wi-Fi AP, 4-Port Switch, and Security Gateway

802.11ac Wave 2, 4x4 MU-MIMO Technology

The Easiest Way to UniFi

Model: UDM

Build your home or office network with the UniFi® Dream Machine, model UDM. Powered by a fast 1.7 GHz quad-core processor, the UDM combines multiple functions into a single elegant device:

- High-Performance 802.11ac 4x4 Wave 2 Access Point (AP)
- Managed 4-Port Gigabit Switch
- Advanced Security Gateway
- UniFi Network Controller

The UDM is the ideal first UniFi device. It's easy to use and still offers all the benefits of UniFi for homes and businesses. Easily expand the UDM by adding more UniFi Switches or APs while managing the network with the integrated controller.

The UniFi Network app and UniFi cloud provide remote access to the controller from anywhere. The entire network can be kept updated and safe with automated software updates, which are free of charge.

Powerful Security

The UDM offers advanced firewall policies and persistent threat management to act as an Intrusion Prevention System (IPS) and Intrusion Detection System (IDS).

Automatic QoS

Top QoS priority is assigned to voice and video traffic for clear calls and lag-free video streaming.

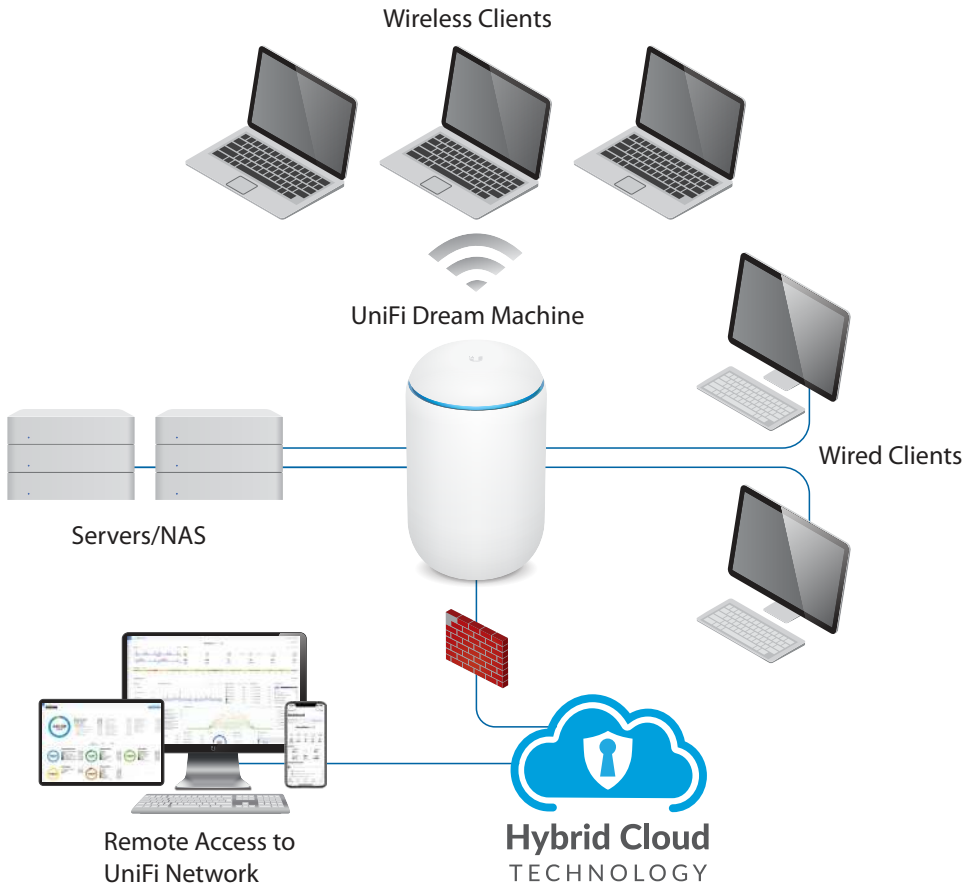
Convenient VLAN Support

The UDM can create virtual network segments for security and network traffic management.

VPN Server for Secure Communications

A site-to-site VPN secures and encrypts private data communications traveling over the internet.

Application Diagram



The UniFi Network Controller software runs on the UDM, which also acts as a firewall and DHCP server for the local network.



Scalable UniFi Network Controller

Management Capabilities

The UniFi Network Controller can provision UniFi devices, map out networks, and quickly manage system traffic. Important network details are logically organized for a simplified, yet powerful, interface.

Network Overview

From a single pane of glass, view network topology and configuration, real-time statistics, and debugging metrics. Monitor your network's vitals and make on-the-fly adjustments as needed.

Deep Packet Inspection

Ubiquiti's proprietary Deep Packet Inspection (DPI) engine includes the latest application identification signatures to track which applications (and IP addresses) are using the most bandwidth.

Detailed Analytics

The UniFi Network Controller provides configurable reporting and analytics to manage large user populations and expedite troubleshooting. Advanced search and sorting capabilities make network management more efficient.

LAN/WLAN Groups

Create multiple LAN and WLAN groups and assign them to the respective UniFi devices and VLAN tags.

RF Environment

Detect and troubleshoot nearby interference, analyze radio frequencies, and choose optimal AP placement. The auto-optimize feature configures the UDM with best practice settings, and the included radio AI capability optimizes channel selection using a genetic algorithm.

Advanced RF Performance

RF performance and configuration features include spectral analysis, airtime fairness, band steering, and cell-size tuning.

Predictive Maps

Upload a map or use Google Maps to represent the areas where your UniFi devices are located. Use the predictive map feature* to get a preview of coverage, and to help you avoid dead spots.

Wireless Uplink

Wireless Uplink functionality enables wireless connectivity between APs for extended range, wireless adoption of APs in their default state, and real-time changes to network topology.

Guest Portal/Hotspot

Configure custom settings, including authentication, Hotspot setup, and the option to use your own external portal server.

* *version 5.6 or higher*

Download on the App Store

GET IT ON Google Play

802.11ac Wave 2 has become the de facto Wi-Fi radio standard, no matter what the environment.

Home use requires extremely high throughput (4x4 MIMO streams) for video streaming; low-latency gaming; and local video, photo, and file transfers: the UDM delivers the requisite high-performance Wi-Fi and includes integrated Ethernet ports for attaching local media.

The UDM is also ideal for enterprise use: it fits into high-density environments as part of the overall enterprise network – small, remote corporate offices, retail stores, and hospitality locales. You can also expand Wi-Fi coverage by adding more APs via the built-in switch.

Model Summary



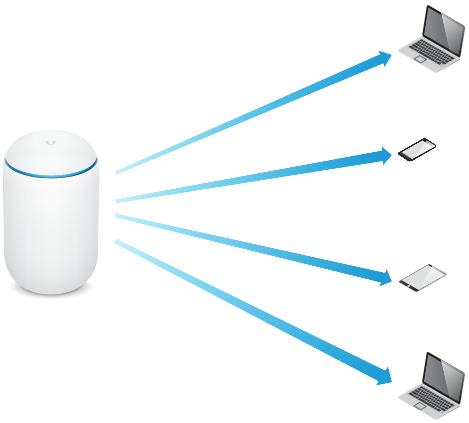
	UDM
Environment	Indoor
UniFi Network Controller	✓
Gigabit Switch Ports	4
Gigabit WAN Port	1
DHCP Server	✓
Simultaneous Dual-Band	✓
2.4 GHz Radio Rate	300 Mbps
2.4 GHz MIMO	2x2 (20/40 MHz)
5 GHz Radio Rate	1733 Mbps
5 GHz MU-MIMO	4x4 (20/40/80 MHz) 2x2 (160 MHz)
Wireless Uplink	✓
DFS Certification	✓

802.11ac Wave 1 SU-MIMO

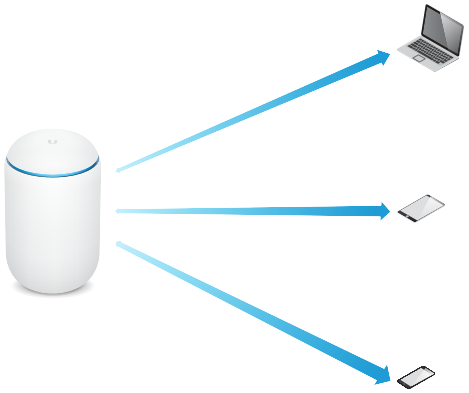


SU-MIMO: A Wave 1 AP communicates with one client at a time.

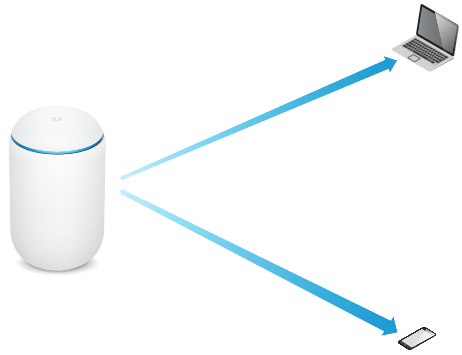
802.11ac Wave 2 MU-MIMO



MU-MIMO with 1x1 clients: The UDM communicates with four 1x1 clients at a time.



MU-MIMO with 2x2 and 1x1 clients: The UDM communicates with one 2x2 client and two 1x1 clients at a time.



MU-MIMO with 3x3 and 1x1 clients: The UDM communicates with one 3x3 client and one 1x1 client at a time.

802.11ac Technology

Initial 802.11ac Wave 1 SU-MIMO (Single-User, Multiple Input, Multiple Output) technology allows an earlier-generation AP, such as the UniFi AC Pro AP, to communicate with only one client at a time.

802.11ac Wave 2 MU-MIMO (Multi-User, Multiple Input, Multiple Output) technology allows a Wave 2 AP, such as the UDM, to communicate with multiple clients at the same time – significantly increasing multi-user throughput and overall user experience. The following describes a 4-client scenario:

MU-MIMO Assuming the same conditions, a Wave 2 AP provides up to 75% improvement[1] overall over a Wave 1 AP. This improvement increases wireless performance and/or serves more clients at the same performance level.

4x4 Spatial Streams At any single time, a Wave 2 AP can communicate with the following MU-MIMO clients:

- four 1x1 clients
- two 2x2 clients
- one 2x2 client and two 1x1 clients
- one 3x3 client and one 1x1 client

A 4x4 Wave 2 AP delivers up to 33% greater performance[1] than a Wave 1 AP that is 3x3 in both radio bands.

Real-World Performance Combining the performance increases from MU-MIMO technology and the use of 4x4 spatial streams, the UDM delivers up to 125% greater performance[1] than a typical Wave 1 AP.

Client Compatibility For optimal performance, use MU-MIMO clients. SU-MIMO clients will also benefit and gain up to 10-20% greater performance when used with the UDM.

[1] *Actual performance values may vary depending on environmental and installation conditions.*

High-Density Scenarios

Both Wave 1 and Wave 2 APs offer 28 independent (non-overlapping) channels: three for the 2.4 GHz band and twenty-five for the 5 GHz band, including DFS channels.

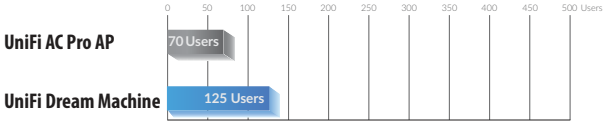
When you use the 2.4 GHz band in a high-density location, you encounter self-interference and channel saturation.

When you use the 5 GHz band, you can deploy smaller cells (coverage areas), so you can support more clients in any cell that deploys more than one AP.

With the advantages of MU-MIMO technology and 4x4 spatial streams, the UDM can support more than triple the number of users[2] than a typical Wave 1 AP.

In practice, the maximum number of users the UDM can support is limited by radio link airtime. This depends on the amount of traffic each device creates, types of devices, network configuration, and the presence of other APs on the same channel.

Recommended Maximum Number of Users

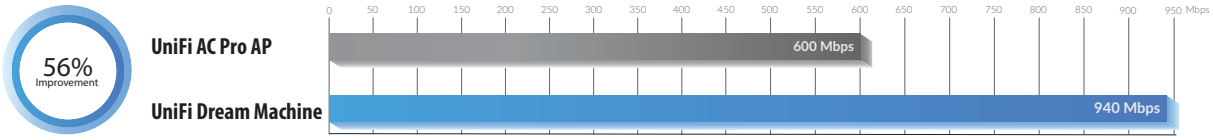


As a theoretical maximum, the UDM supports the maximum number of users as specified by the 802.11ac standard.

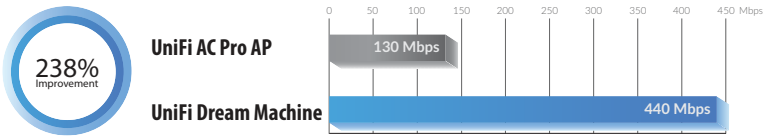
For more information about network capacity and high-density design, go to: **ubnt.link/UniFi-UAPs-High-Density**

[2] *Actual numbers may vary depending on environmental and installation conditions.*

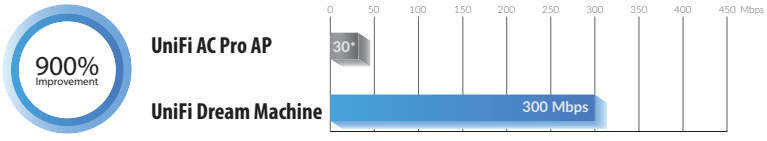
Single-Client Aggregate Throughput



10-Client Aggregate Throughput



100-Client Aggregate Throughput



* *Mbps*

Throughput data based on lab tests using Veriwave traffic simulator.

UDM	
Dimensions	Ø 110 x 184.2 mm (Ø 4.33 x 7.25")
Weight	1.05 kg (2.32 lb)
Networking Interface	(4) LAN 10/100/1000 RJ45 Ports (1) WAN 10/100/1000 RJ45 Port
Buttons	Reset
IDS/IPS Throughput	850 Mbps
Processor	Arm Cortex-A57 Quad-Core at 1.7 GHz
System Memory	2 GB DDR RAM
On-Board Flash Storage	16 GB
Maximum Power Consumption	26W
Supported Voltage Range	100 - 240VAC
Power Method	AC Power Cord
Power Supply	Internal AC/DC Power Adapter (24V, 0.6A, 100 - 240VAC)
Power Save	Supported
Beamforming	Supported
TX Power* 2.4 GHz 5 GHz	 23 dBm 30 dBm
Antenna	(1) Dual-Band, Quad-Polarity Antenna
Antenna Gain 2.4 GHz 5 GHz	 3 dBi 4.5 dBi
Wi-Fi Standards	802.11 a/b/g/n/ac/ac-wave2
Wireless Security	WEP, WPA-PSK, WPA-Enterprise (WPA/WPA2, TKIP/AES), 802.11w/PMF
BSSID	Up to 8 per Radio
Operating Temperature	-10 to 45° C (14 to 113° F)
Operating Humidity	5 to 95% Noncondensing
Certifications	CE, FCC, IC



* *Including antenna gain. Maximum TX power level may be limited by user's country-specific regulations.*

Advanced Traffic Management	
VLAN	802.1Q
Advanced QoS	Per-User Rate Limiting
Guest Traffic Isolation	Supported
WMM	Voice, Video, Best Effort, and Background



Supported Data Rates (Mbps)	
Standard	Data Rates
802.11a	6, 9, 12, 18, 24, 36, 48, 54 Mbps
802.11n	6.5 Mbps to 300 Mbps (MCS0 - MCS15, HT 20/40)
802.11ac	6.5 Mbps to 1.7 Gbps (MCS0 - MCS9 NSS1/2/3/4, VHT 20/40/80) 58 Mbps to 1.7 Gbps (MCS0 - MCS9 NSS1/2, VHT 160)
802.11b	1, 2, 5.5, 11 Mbps
802.11g	6, 9, 12, 18, 24, 36, 48, 54 Mbps

Specifications are subject to change. Ubiquiti products are sold with a limited warranty described at: ui.com/support/warranty
The limited warranty requires the use of arbitration to resolve disputes on an individual basis, and, where applicable, specify arbitration instead of jury trials or class actions.
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